

# Montana Driver Education and Training

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## Effects of Alcohol and Other Drugs on the Driving Task Part I



Linda McCulloch, Superintendent  
Montana Office of Public Instruction  
[www.opi.mt.gov](http://www.opi.mt.gov)

# Standards and Benchmarks

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## 1. Laws and Highway System

- a. know proper visual skills for operating a motor vehicle
- b. communicate and explain proper visual skills for operating a motor vehicle
- c. consistently demonstrate knowledge and understanding by responsible adherence to highway transportation system traffic laws and control devices

## 2. Responsibility

- a. recognize the importance of making safe and responsible decisions for owning and operating a vehicle
- b. demonstrate the ability to make appropriate decisions while operating a motor vehicle
- c. consistently display respect for other users of the highway transportation system
- d. develop habits and attitudes with regard to responsible driving

## 3. Visual Skills

- d. develop habits and attitudes with regard to proper visual skills

## 4. Vehicle Control

- b. develop habits and attitudes relative to safe, efficient and smooth vehicle operation.

## 5. Communication

- a. consistently communicate their driving intentions (i.e., use of lights, vehicle and personal signals)
- b. adjust their driver behavior based on observation of highway transportation system and other users
- c. adjust communication (i.e., use of lights, vehicle and personal signals) based on observation of highway transportation system and other users
- d. develop habits and attitudes relative to effective communication

## 6. Risk Management

- a. understand driver risk-management principles
- b. demonstrate driver risk-management strategies
- c. develop driver risk-management habits and attitudes

## 7. Lifelong Learning

- a. understand past, present and future vehicle and roadway design, and driving cultures
- b. describe past, present and future motor vehicle laws
- c. understand benefits of a lifelong learning approach to driving
- e. identify opportunities for lifelong education in driving



# INTRODUCTION

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- Driving while impaired whether by alcohol, by other drugs, or by alcohol combined with one or more other drugs, is a major health and safety problem
- Alcohol is the most widely used drug and the one most often linked to motor vehicle crashes



# EFFECT OF ALCOHOL ON THE BODY

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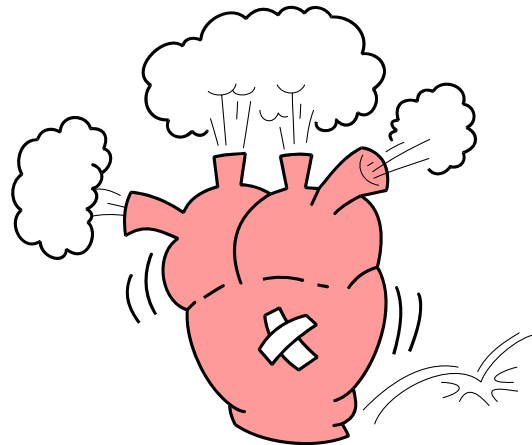
- Alcohol is a drug which depresses the central nervous system
- As a depressant, alcohol slows the activity of the brain and the spinal cord
- The drinker experiences the depressant action of the alcohol in reduced tension and lowered inhibitions
- These feelings can frequently be observed in the drinker as he/she becomes more active, talkative, loud and begins to do and say things that are not a part of his/her normal behavior pattern
- Even though these feelings come from the slowing down effects (depressant) of the alcohol, they are referred to as "getting high"
- If enough alcohol is consumed, drowsiness, sleep, unconsciousness and eventually, death will result



# EFFECT OF ALCOHOL ON THE BODY

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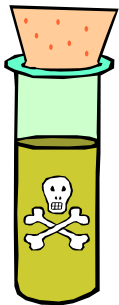
- Unlike most food, alcohol does not have to be digested
- Once swallowed, it is absorbed directly into the blood stream through the walls of the stomach and small intestine within one to two minutes
- However, if there is food in the stomach, this absorption process may be slowed
- Once in the bloodstream, the alcohol is distributed to all parts of the body, including the brain and liver



# EFFECT OF ALCOHOL ON THE BODY

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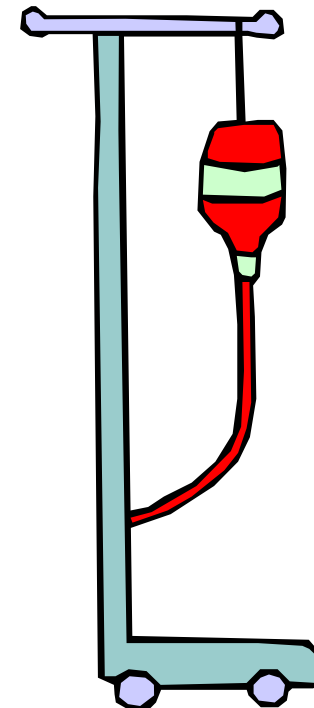
- As the amount of alcohol in the blood increases, several things happen to the body
  - Vision becomes impaired
  - Depth perception becomes distorted and the pupils of the eyes react more slowly to variations in light
  - Coordination deteriorates
  - Eyes can become fixated (stare)
  - Because vision is distorted, scanning and orderly visual searching are reduced
  - The ability to solve problems is reduced and the ability to recall past events or learned knowledge is diminished
  - The mind simply cannot manage to put it all together and, as a result, the person may exhibit poor judgment
  - Inhibitions (persons inner voice that restrains or holds back impulsive behaviors) are reduced
  - Euphoric feelings can cause drivers to take risks they normally wouldn't



# EFFECT OF ALCOHOL ON THE BODY

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- Judgment, reasoning, and decision making are reduced
- Because judgment is reduced, drivers often feel they think sharper and quicker
- Fortunately, the effects of alcohol are temporary for the moderate drinker
- Very small quantities of alcohol are eliminated through sweat, breath, and urine



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# EFFECT OF ALCOHOL ON THE BODY

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- Alcohol can produce a wide range of effects, from a mild 'buzz' to death
- Most drugs have very specific effects
  - They normally target one or two different systems in the brain
- However, alcohol is different than these drugs
  - It affects almost *everything* in the brain in one way or another
- One of the effects of excessive alcohol use is that it interferes with vitamin B absorption; this prevents the brain from working properly





# EFFECT OF ALCOHOL ON THE TEEN BRAIN

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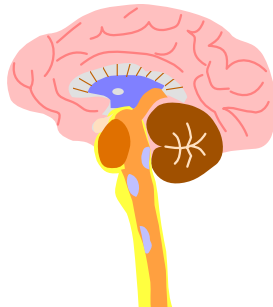
- Alcohol can disrupt the adolescent brain's ability to learn life skills
- Not only can heavy drinking during this time get the adolescent into trouble through risk taking behavior such as drinking and driving, but it can also make the brain less able to learn important life skills that can help a teen avoid trouble as an adult



# EFFECT OF ALCOHOL ON THE TEEN BRAIN

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- A teen's brain develops until age 16 and needs a high rate of energy as the brain matures until age 20
  - Damage from alcohol at this time can be long-term and irreversible
- Short-term or moderate drinking impairs learning and memory far more in youth than adults
  - Adolescents need only drink half as much to suffer the same negative effects
- New research indicates that teenagers who drink too much may lose as much as 10 percent of their brainpower—the difference between passing and failing in school and in life

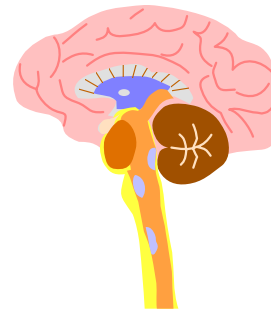


# EFFECT OF ALCOHOL ON THE TEEN BRAIN

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## Studies have shown adolescent drinkers

- score worse than non-users on vocabulary, general information, memory, and memory retrieval
- have 10% less verbal and nonverbal information recall
- perform worse in school, are more likely to fall behind and have an increased risk of social problems, depression, suicidal thoughts and violence
- Have their sleep cycle affected resulting in impaired learning and memory as well as disrupted release of hormones necessary for growth and maturation
- have an increased risk of stroke



# Amount of Alcohol in Drinks Vary

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- All alcohol beverages have one thing in common: they contain alcohol
- The alcoholic content of some beverages is stated in terms of proof, a number which is actually double its alcoholic content
  - For example: if the proof is listed as 86, the alcohol content is 43%
  - For beer, the average alcohol content is 4.5% but it may vary from 2.1% to 5.2%



# ARE ALL ALCOHOLIC BEVERAGES EQUAL?

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**1 oz 80 Proof Whiskey**



**12 oz. Regular Beer**



**12 oz. Cooler**



**2 oz. Margarita**



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# CRUNCHING THE NUMBERS

## WHISKEY 80 Proof

1 oz.  
0.40

**0.40** ounces of ethyl alcohol



## BEER 4.5%

12 oz.  
0.045

**0.54** ounces of ethyl alcohol



## COOLER 5.0%

12 oz.  
0.05

**0.60** ounces of ethyl alcohol



## MARGARITA

Tequila 80 Proof  
Triple Sec 60 Proof

1.5 oz.  
0.4  
**0.6**

0.5 oz.  
0.3  
**0.15**

**0.75**

ounces of ethyl alcohol



MARGARITA	=	<b>88% more alcohol</b>	than a shot of whiskey
COOLER	=	<b>50% more alcohol</b>	than a shot of whiskey
BEER	=	<b>35% more alcohol</b>	than a shot of whiskey



# AMOUNT OF ALCOHOL IN DRINKS VARY

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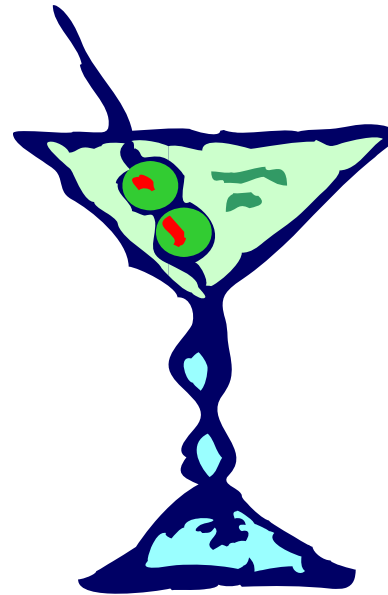
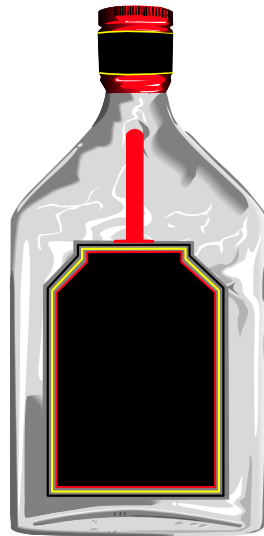
- Table wines usually have an alcohol content of 12% but it can also range from 10% to 18%
- A wine having an alcohol content greater than 18% is a fortified wine meaning that more alcohol was added
- Wine coolers have an alcohol content which can vary from 4.9% to 6.0%



# AMOUNT OF ALCOHOL IN DRINKS VARY

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- Know that not all drinks contain equal amounts of alcohol
- The alcoholic content of any one drink depends upon both the type and amount of liquor it contains
- Some drinks, such as manhattans and martinis, contain two ounces of liquor





# AMOUNT OF ALCOHOL IN DRINKS VARY

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- Some mixed drinks contain only one ounce of liquor
- Drinks mixed by a host or hostess at a private party can be even stronger
- Beer has the same effect as straight scotch



# BLOOD ALCOHOL CONCENTRATION

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- Blood Alcohol Concentration (BAC) which may also be referred to as Blood-Alcohol Level (BAL) is a measure of the amount of alcohol in a person's blood expressed as a percent by volume



# BLOOD ALCOHOL CONCENTRATION

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- All 50 states and the District of Columbia have laws defining drinking and driving as a crime to drive with a blood alcohol concentration (BAC) at or above a prescribed level
- All but three states use 0.08 percent as the illegal level of intoxication for driving; the other three states use 0.10 percent



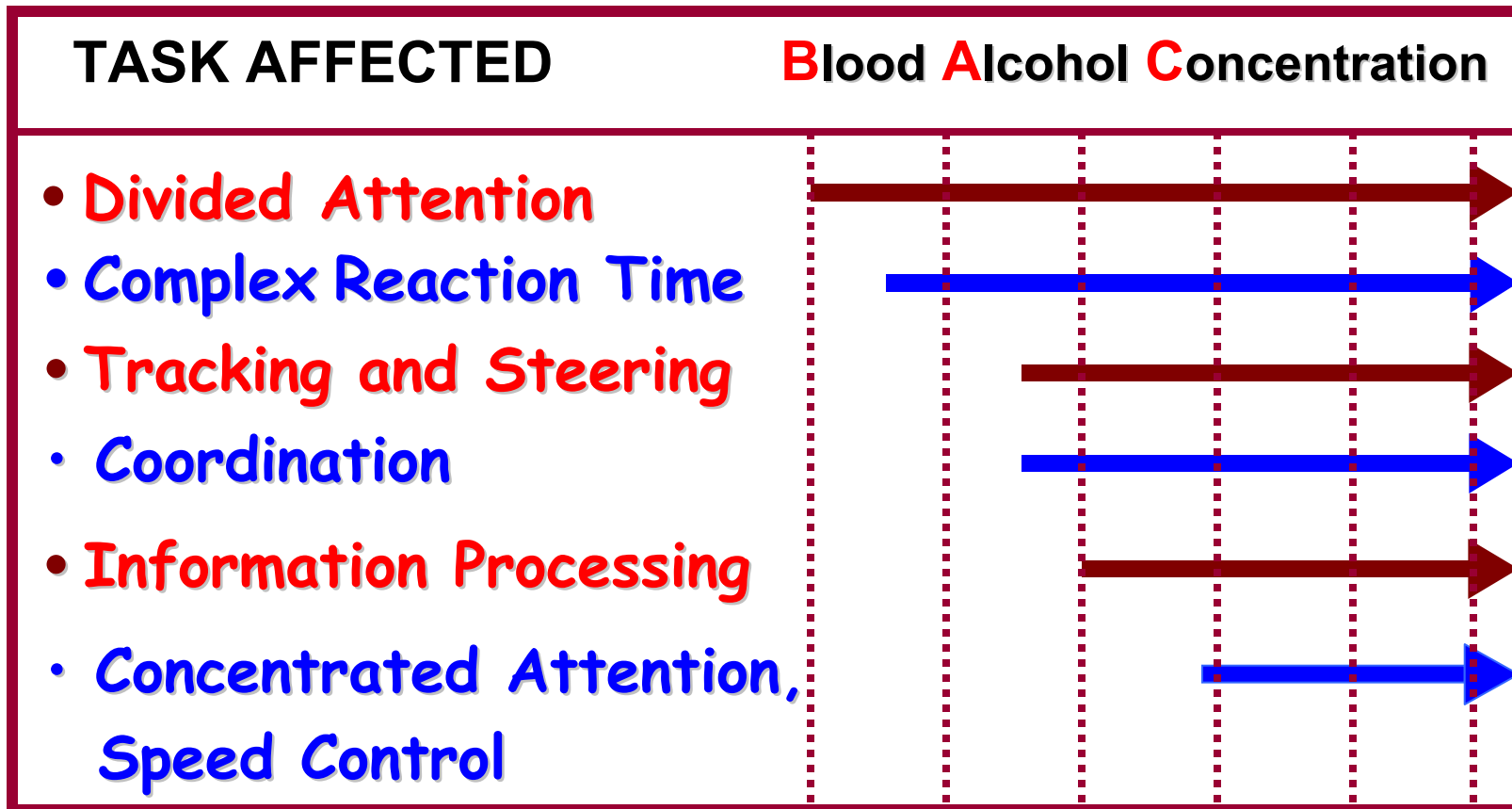
# BLOOD ALCOHOL CONCENTRATION

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- For example, if an individual has a BAC of 0.08% BAC (8/100 of 1% alcohol), this means that there is 8/10 of a drop of alcohol for every 1,000 drops of blood in a person's body
- BAC can be determined by testing a person's blood, breath, urine, or saliva
- However, testing the breath is the quickest, least complicated and most frequently used test to determine BAC



# DRIVING TASK EFFECTS OF ALCOHOL



# FIVE FACTORS AFFECTING BAC

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## Number of Standard Drinks

- Each drink consumed within an hour increases the BAC level

## Body Weight

- The heavier the person, the more alcohol it takes to raise the BAC

## Gender

- Women generally have less water and more body fat per pound of body weight than men
- Alcohol does not go into fat cells as easily as other cells, so more alcohol remains in the blood of women

## Time

- Drinking three drinks in one hour will affect a person more than drinking three drinks in three hours

## Food

- Food in the stomach when alcohol is consumed causes alcohol to be absorbed more slowly, thus slowing down the rate and the amount of intoxication
- Food needs to be a good meal in the stomach (not a few potato chips) before drinking begins

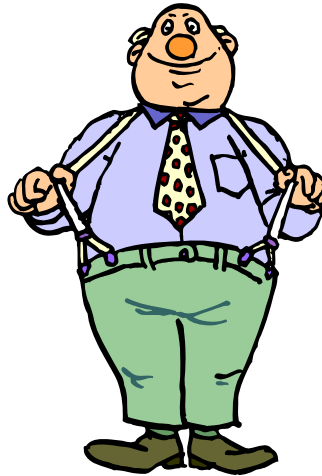


# BLOOD ALCOHOL CONCENTRATION FACTORS

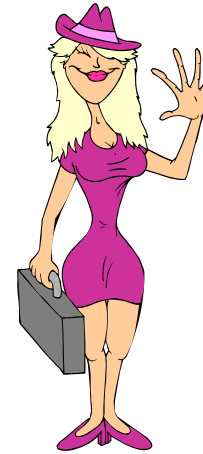
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Number of drinks



Weight



Gender



Time



Food



# DIFFERING EFFECTS OF ALCOHOL

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- Other factors which influence a person's effect of alcohol are:
  - **Mood**: a depressed person may feel the effects more quickly
  - **Tolerance**: a person who drinks regularly may show fewer outward effects because they learn to compensate for some of the effects of alcohol
  - **Fatigue**: a person who is tired may feel the effects of alcohol more quickly
  - **Experience**: How long and how much a person has been drinking





# DIFFERING EFFECTS OF ALCOHOL

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- Tolerance
- Mood
- Fatigue
- Age/Experience
- Expectations
- Surroundings



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# ELIMINATION RATE

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- The body disposes of most alcohol through oxidation (burning) in the liver
  - The oxidation takes place at a constant rate and nothing can be done to slow down or accelerate the process
  - It continues until all of the alcohol has been burned; in other words, only time will "sober" up a person



# ELIMINATION RATE

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- Alcohol is eliminated from the body at the rate of about one drink per hour
- The simplest way to think about blood alcohol levels is to compare the drinking process to filling a sink
  - You can run the water tap as fast or as slow as you want, but the sink drain (in this case a very small drain), will allow it to empty only so fast
  - The "blood alcohol sink" will drain only at the rate of 0.015% BAC per hour
- Only time can sober a person who has been drinking and it is a slow process



# ELIMINATION OF ALCOHOL

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Breath  
Urine  
Sweat } 10%

  
**LIVER 90%**

PROCESS:









About 0.015 BAC Reduction Per Hour

Therefore: BAC of 0.05 = 3.5 hours for removal  
BAC of 0.07 = 5.0 hours for removal  
BAC of 0.10 = 7.0 hours for removal  
BAC of 0.15 = 10.0 hours for removal



# THE BODY REMOVES ONE DRINK PER HOUR

125 lb. female		
12 oz beer/hour	BAC in 1 hr	6 hrs later
 <b>1</b>	<b>0.04</b>	<b>Sober</b>
 <b>3</b>	<b>0.12</b>	<b>0.03 BAC</b>
 <b>6</b>	<b>0.24</b>	<b>0.15 BAC</b>

155 lb. male		
12 oz beer/hour	BAC in 1 hr	6 hrs later
 <b>1</b>	<b>0.03</b>	<b>Sober</b>
 <b>3</b>	<b>0.09</b>	<b>Sober</b>
 <b>6</b>	<b>0.18</b>	<b>0.09 BAC</b>



# DOING THE MATH ON ONE DRINK PER HOUR

## 125 lb. Female

Drinks one 12 oz. Regular Beer (7:00 PM)

BAC level would be 0.04



After One hour

$0.04 - 0.015$

**0.025 BAC**

Drinks Another 12 oz. Regular Beer (8:00 p.m.)



After Second hour

$0.025 + 0.04 = 0.065$  BAC

$0.065 - 0.015$

**0.05 BAC**

Drinks Another 12 oz. Regular Beer (9:00 p.m.)



After Third hour

$0.05 + 0.04 = 0.09$  BAC

$0.09 - 0.015$

**0.075 BAC**

Drinks Another 12 oz. Regular Beer (10:00 p.m.)



After Fourth hour

$0.075 + 0.04 = 0.115$  BAC

$0.115 - 0.015$

**0.10 BAC**

Drinks Another 12 oz. Regular Beer (11:00 p.m.)



After Fifth hour

$0.10 + 0.04 = 0.14$  BAC

$0.14 - 0.015$

**0.125 BAC**

Drinks Another 12 oz. Regular Beer (Midnight)



After Sixth hour

$0.125 + 0.04 = 0.165$  BAC

$0.165 - 0.015$

**0.15 BAC**



# DOING THE MATH ON ONE DRINK PER HOUR

## 135 lb. Male

Drinks one 12 oz. Regular Beer (7:00 p.m.)  
BAC level would be 0.03



After One hour

$0.03 - 0.015$

**0.015 BAC**

Drinks Another 12 oz. Regular Beer (8:00 p.m.)  
 $0.015 + 0.03 = 0.045$  BAC Level



After Second hour

$0.045 - 0.015$

**0.03 BAC**

Drinks Another 12 oz. Regular Beer (9:00 p.m.)  
 $0.03 + 0.03 = 0.06$  BAC Level



After Third hour

$0.06 - 0.015$

**0.045 BAC**

Drinks Another 12 oz. Regular Beer (10:00 p.m.)  
 $0.045 + 0.03 = 0.075$  BAC level



After Fourth hour

$0.075 - 0.015$

**0.06 BAC**

Drinks Another 12 oz. Regular Beer (11:00 p.m.)  
 $0.06 + 0.03 = 0.09$  BAC Level



After Fifth hour

$0.09 - 0.015$

**0.075 BAC**

Drinks Another 12 oz. Regular Beer (Midnight)  
 $0.075 + 0.03 = 0.105$  BAC Level



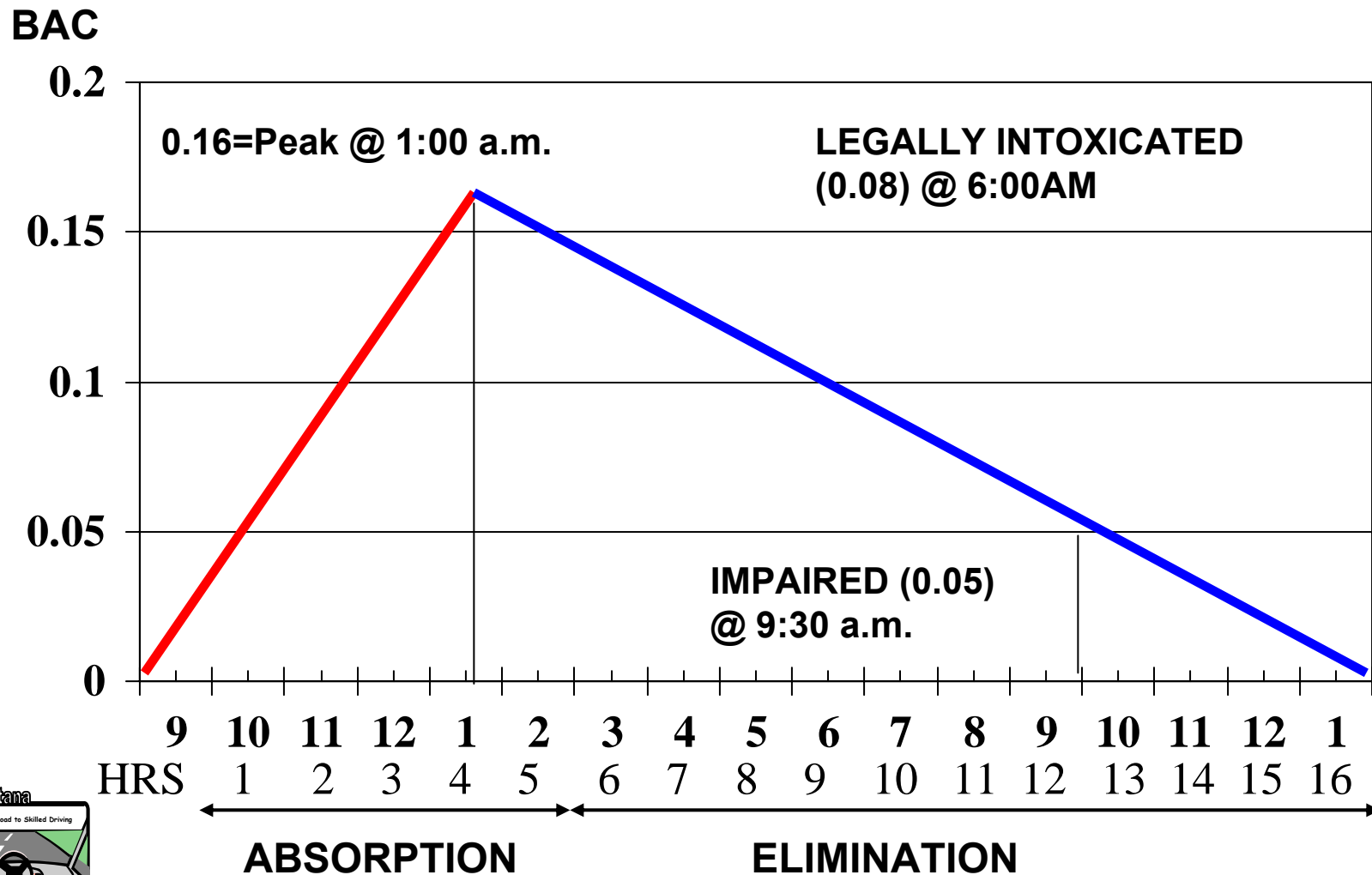
After Sixth hour

$0.105 - 0.015$

**0.09 BAC**



# Stops Drinking @ 12:30 a.m. — Elimination





# BAC EFFECT ON THE BODY

	BAC LEVEL *
• Decision Making	0.03-0.04
• Release of Inhibitions	0.04
• Reflexes	0.05-0.10
• Coordination/Motor Ability	0.10
• Confusion/Disorientation	0.15
• Stupor	0.20-0.30
• Coma	0.30-0.40
• Death	0.40 or more



\* Effect begins at this BAC rate and continues to deteriorate as BAC rises



# OTHER DRUGS: Marijuana

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- Marijuana is a green, brown, or gray mixture of dried, shredded flowers and leaves of the hemp plant (*Cannabis sativa*)



# OTHER DRUGS: Marijuana

- Marijuana hinders the user's short-term memory and he/she may have trouble handling complex tasks
- The drug's effects on perceptions and reaction time could cause users to be involved in automobile crashes



A goblet or  
two faces?



An old or  
young woman?



# OTHER DRUGS: Marijuana

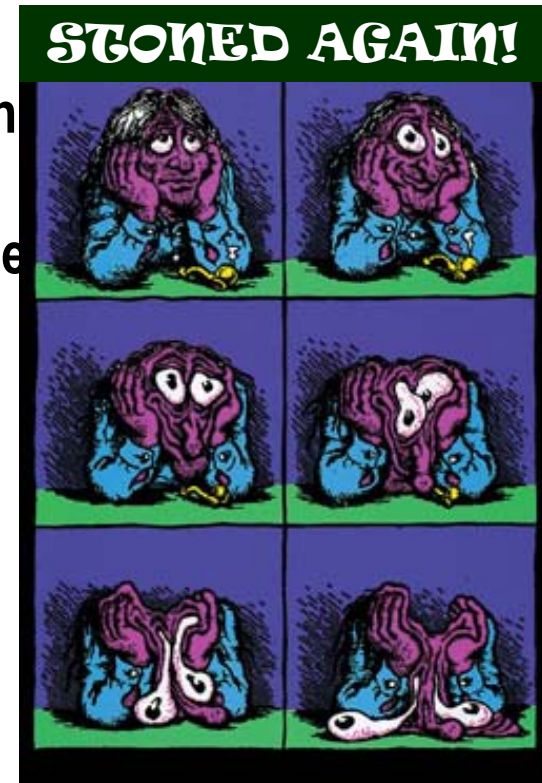
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- Marijuana has adverse effects on many of the skills needed for driving a car
  - These effects may include difficulty in judging distances and delayed reactions to sights and sounds that drivers need to notice
- When users combine marijuana with alcohol, as they often do, the hazards of driving can be more severe than with either drug alone
- Senses of sight, hearing, touch, time, and depth are distorted
- Physical performance is affected



# OTHER DRUGS: Marijuana

- Critical skills for safe operation of motor vehicles including measures of coordination, tracking, vigilance, memory, learning, attention, information processing, decision-making, and perception are impaired following cannabis use
- Marijuana causes acute effects on impairment for up to 4 - 6 hours following typical recreational use
- Principle effects are on divided attention, vigilance, tracking, decision making and perception



# OTHER DRUGS: Cocaine

- Cocaine is a white powder that comes from the leaves of the South American coca plant
- Crack is a form of cocaine that has been chemically altered so that it can be smoked
- Cocaine and crack are highly addictive
- Cocaine is the powdered form of the drug, usually sniffed up the nose, but sometimes diluted and injected into a vein.
- Crack is the purest form of cocaine and is smoked



# OTHER DRUGS: Methamphetamine

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- **Methamphetamine is a powerfully addictive and violent drug**
- **Its use can result in fatal kidney and lung disorders, brain damage, liver damage, chronic depression, and other physical and mental disorders**
- **Recent studies have demonstrated that meth causes more damage to the brain than alcohol, heroin, or cocaine**





# METHAMPHETAMINE

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## Commonly known as:

- Meth
- Speed
- Chalk
- Crystal
- Crank
- Glass
- Ice





# METHAMPHETAMINE

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- It is a white, odorless, bitter-tasting crystalline powder that easily dissolves in water or alcohol
- Users may become addicted quickly, and use it with increasing frequency and in increasing doses
- In contrast to cocaine, which is quickly removed and almost completely metabolized in the body, methamphetamine has a much longer duration of action and a larger percentage of the drug remains unchanged in the body
- This results in methamphetamine being present in the brain longer



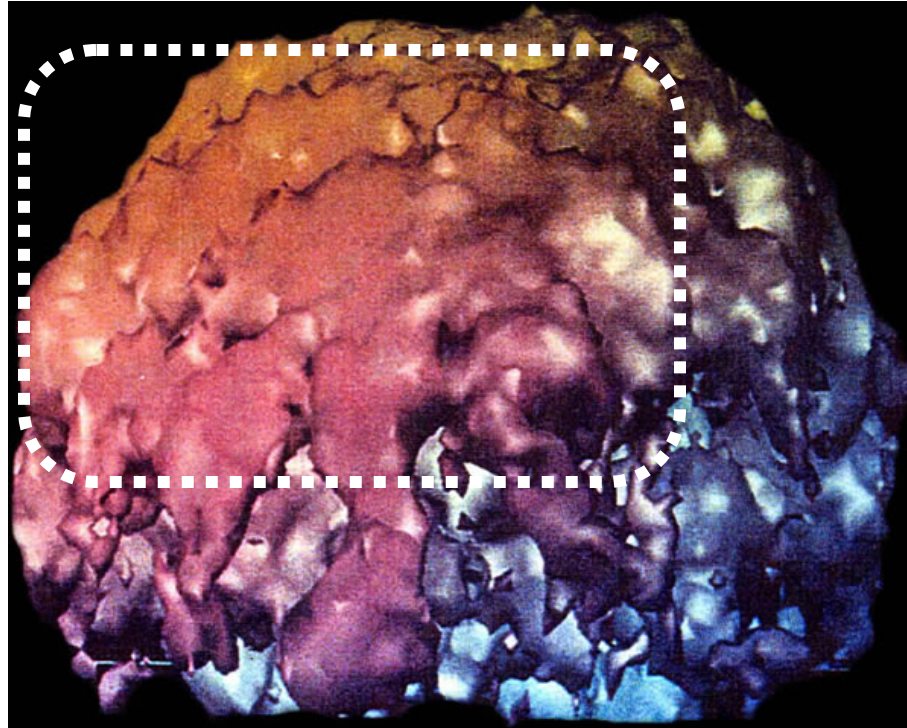
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Source: Nebraska State Patrol

# EFFECT OF METH ON THE BRAIN

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**Dead spots in the brain tissue appear to be brown mush**



# METHAMPHETAMINE

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- Chronic methamphetamine abusers exhibit symptoms that can include violent behavior, anxiety, confusion, and insomnia
- Abusers suffer paranoia, auditory hallucinations, mood disturbances, and delusions (for example, the sensation of insects creeping on the skin)
- The paranoia can result in homicidal as well as suicidal thoughts
- Impairment causes distraction, disorientation, motor excitation, hyperactive reflexes, general cognitive impairment, or withdrawal and fatigue
- Methamphetamine may cause dizziness, blurred vision, or restlessness, and it may hide the symptoms of extreme tiredness



# METHAMPHETAMINE

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- The toxic, acidic ingredients that make up crystal methamphetamine cause a condition known as "meth mouth," characterized by rampant tooth decay, gum disease and cracks in teeth



**A 23-year-old man's teeth after using  
meth for three years**



# METHAMPHETAMINE

- Methamphetamine use among young people in Montana is higher than the national average — 8.3% of Montana teens admit ever using methamphetamine, compared with 7.6% nationwide
- Montana high school youth who use methamphetamines are also more likely (49 percent vs. 16 percent) to have driven a car after drinking alcohol than students who do not use methamphetamines



Leftover products used to make Meth

Photo source: Alabama National Guard



# METHAMPHETAMINE

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- In studies of drive-off-the-road type accidents, high speed, failing to stop, diminished divided attention, inattentive driving, impatience, and high risk driving have been reported
- Significant impairment of driving performance would also be expected during drug withdrawal
- Impaired driving and driver behaviors include speeding, lane travel, erratic driving, accidents, nervousness, rapid and non-stop speech, unintelligible speech, disorientation, agitation, staggering and awkward movements, irrational or violent behavior, and unconsciousness



# METHAMPHETAMINE

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- Methamphetamine causes impairment acutely and chronically, with significant withdrawal effects
- Early phase effects include motor excitation, inattention, aggressive driving, risk taking, speeding, fleeing police
- Late phase effects include cognitive impairment, irritability, depression, fatigue, and sleepiness
- Effects and blood concentration are not well correlated





# CONSEQUENCES OF METH USE

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**Ten Years of Meth Use**





# OVER-THE-COUNTER (OTC)

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- **Examples of OTC drugs include**
  - Aspirin or other pain relievers
  - Cold and allergy remedies
  - Arthritis and back pain medication
- **Physical effects of OTC drugs**
  - Drowsiness, dizziness, slowed reaction times, poor judgment
  - Always read the labels and know the effects that could occur



# PRESCRIPTION

- Prescription drugs can be purchased only when prescribed by a doctor
- Many contain either higher dosages of the same drugs as OTC medications or more potent drugs with more powerful side effects than OTC
- Physical effects of prescription drugs include: Drowsiness, dizziness, slowed reaction times, poor judgment
- Always read the labels and know the effects that can occur



# STIMULANTS

Stimulants are drugs that speed up the central nervous system

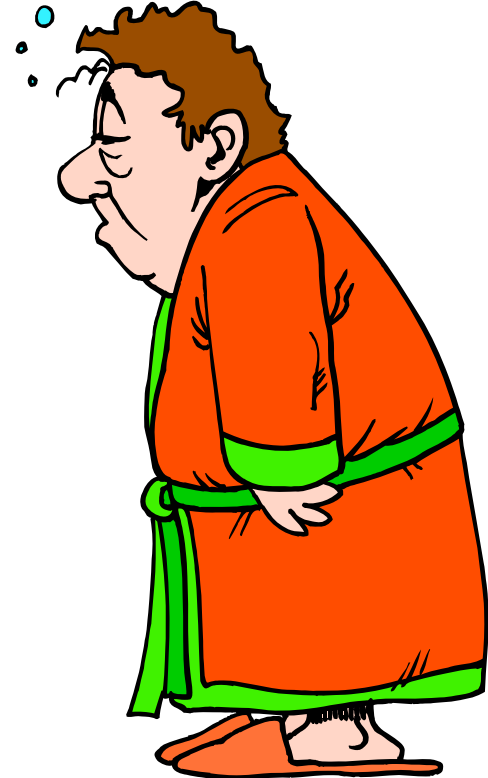
- Examples include
  - Amphetamines - speed, cocaine, crank, crack, meth
  - Caffeine - coffee, tea, soft drinks
  - Nicotine
- Physical effects of stimulants
  - Gives user a feeling of high energy and alertness leading to increased risk taking
  - Sometimes used to try and stay awake when tired
  - Reduced reaction time, impaired motor skills, dimmed vision
  - Aggressive and overconfident



# DEPRESSANTS

Depressants are drugs that slow the central nervous system

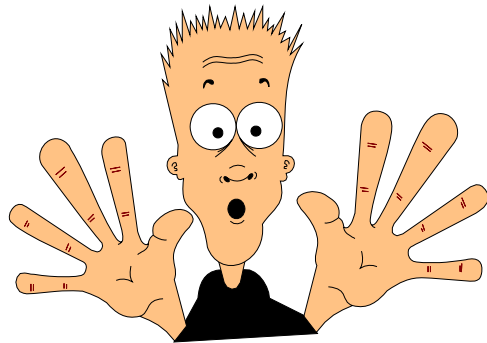
- Examples include
  - Barbiturates
  - Sleeping pills
  - Tranquilizers
  - Narcotics — heroin, codeine, morphine
- Physical effects of depressants
  - Become very relaxed
  - Lose inhibitions
  - Irritability
  - Confusion
  - Drowsy
  - Dizzy
  - Poor hand-eye coordination



# HALLUCINOGENS

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- **Hallucinogens are unpredictable mind-altering drugs that alter personality**
- **Examples include**
  - Marijuana
  - Hashish
  - LSD
  - PCP - angel dust
- **Physical effects of hallucinogens**
  - Can cause panic or terror
  - Distort sense of direction, distance, and time
  - Impairs judgment and decision-making
  - Fragmented thought process
  - Coordination (affects acceleration and braking control)
  - Altered depth perception
  - Drowsiness
  - Impaired vision
  - Impaired spatial relationships and passage of time



# COMBINED EFFECTS OF MIXING ALCOHOL AND DRUGS

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- Mixing alcohol and other drugs can cause synergistic effects
- This means that the effects of the drug multiply to become more than 1 +1
- Most states “Driving Under the Influence” laws includes ALL drugs
- If alcohol is consumed while taking certain medications, a person may feel – and be – more impaired, which can affect the ability to perform driving-related tasks



# EFFECT OF ALCOHOL ON THE DRIVING TASK

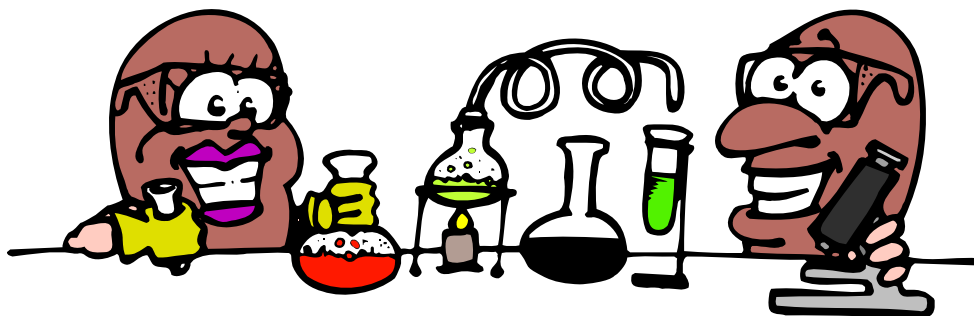
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- As a drug, alcohol IS a depressant which while appearing to give you a lift can and will affect your driving skills in the following ways:
  - Judgment — The decision-making process is much slower and decisions may be faulty
  - Driving too fast or too slow
  - Passing unsafely
  - Inattention
  - Trying to beat a train



# EFFECT OF ALCOHOL ON THE DRIVING TASK

- Vision—Overall vision may be greatly reduced
- Dynamic vision, the ability to follow moving objects with the eyes is affected
- Drivers have difficulty tracking other vehicles, bicyclists and pedestrians
- Judging speed changes of other vehicles is adversely affected with low doses of alcohol
- Less use of the field of vision causes drivers to concentrate on the center of the path of travel and fail to see important events to the sides
- Drivers have difficulty adjusting to changing light conditions, especially at night; resulting in decreased ability to see pedestrians
- Target areas become blurry
- Scanning becomes erratic
- When dazzled by bright light it takes a longer time before being able to see clearly again





# EFFECT OF ALCOHOL ON THE DRIVING TASK

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- **Reaction time — It will take longer to react and move the foot from the gas pedal to the brake**
- **This slowed-down reaction time can be the difference between arriving safely or not arriving at all**
- **Reaction time is impaired at a BAC of 0.03**
- **Even though drivers may stay in their lane, they may have trouble steering straight**



# EFFECT OF ALCOHOL ON THE DRIVING TASK

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- Divided attention — Driving involves visual and mental attention to many things both inside and outside the vehicle
- Under the influence of alcohol and drugs, the mind wanders and concentration is difficult
- Inside the vehicle, drivers must pay attention to the speedometer, passengers, gauges, and sounds
- Outside the vehicle, drivers must pay attention to other vehicles, pedestrians, signs and signals, and roadway markings
- Research has demonstrated that this ability can be affected by a BAC as low as 0.02
- Speed control is difficult to maintain



# EFFECT OF ALCOHOL ON THE DRIVING TASK

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- Risk taking — Drivers under the influence of alcohol do not realize their judgment, reaction, and decision-making are affected
- They think they are doing fine and are not aware of the risks that they may be taking
- Drivers may not be aware of what they are doing
- Drinking drivers may be overly cautious and drive slower than normal traffic
- When under the influence of alcohol a person may no longer know when to stop



# EFFECT OF ALCOHOL ON THE DRIVING TASK

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- **Coordination — Hand/eye and foot/eye coordination are needed to correctly steer, brake, and accelerate**
- **Impairment of these driving tasks can result in loss of vehicle control**
- **A BAC of 0.08 -.10 impairs coordination**



# ALCOHOL RELATED CRASHES

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- Alcohol is the most widely used drug and the one most often linked to motor vehicle accidents
- Motor vehicle crashes are the number one killer of those under age 25
- A study by the AAA Foundation found that drivers age 20 or older with a BAC of 0.15 or higher were about 100 times more likely to be involved in a fatal crash than those with no alcohol in their blood
- But 16- to 19-year olds with a BAC of 0.15 or higher were 400 times more likely to die than same-aged drivers who had not been drinking
- 250,000 people have died in alcohol related accidents in the past 10 years



# ALCOHOL RELATED CRASHES

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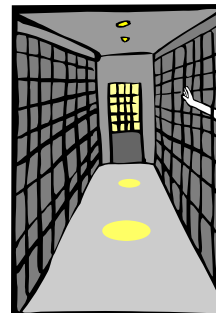
- Presently 25,000 people are killed each year in alcohol related accidents
- 500 people are killed each week in alcohol related accidents
- 71 people are killed each day in alcohol related accidents
- One American life is lost every 20 minutes in alcohol related auto crashes
- It is estimated that one out of every two Americans will be involved in an alcohol related accident in his or her lifetime
- Young people are at highest risk



# IMPAIRED DRIVING—MAKING POOR CHOICES

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- Admittedly, the United States has one of the safest highway systems in the world, due in part to design characteristics, guardrails, highway markings and signs
- The United States has relatively few fatalities per 100-million miles driven
- Yet, the portion of the crashes in the United States involving alcohol is among the highest in the world
- Traffic accidents account for more fatalities each year than homicides, deaths from work-related accidents or airplane crashes
- An accident by an alcohol impaired driver is the most frequently committed violent crime in the United States today



# ALCOHOL-RELATED STATISTICS

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Other alcohol-related statistics show the involvement of alcohol in many non-driving aspects

- 40% of all suicide attempts are alcohol-related
- 54% of all violent crimes are alcohol-related
- 60% of all emergency room admissions are alcohol-related
- 80% of all domestic disputes are alcohol/drug-related
- Over 50% of all fatal highway crashes involving two or more cars are alcohol related
- Over 65% of all fatal single car crashes are alcohol related
- Over 36% percent of all adult pedestrian accidents are alcohol related
- 80% of all fatal alcohol related auto crashes occur at night between 8:00 p.m. and 8:00 a.m.
- 36% of all adult pedestrian accidents involve an intoxicated pedestrian
- Drinking and driving are a lethal combination—if you drink, don't drive





# INTERVENTION TO PREVENT IMPAIRED DRIVING

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- Impaired driving is 100 percent PREVENTABLE.
- What can be done to help prevent more drunk driving fatalities?
- The answer is simple—anything you have to do to stop drinking and driving
- When trying to stop someone from getting behind the wheel there is always an alternative solution



# INTERVENTION TO PREVENT IMPAIRED DRIVING

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Here are some steps that can be taken to prevent more impaired driving fatalities

- If it is a close friend, try and use a soft, calm approach at first—suggest to them that they've had too much to drink and it would be better if someone else drove or if they took a cab
- Be calm—Joke about it—Make light of it
- Try to make it sound like you are doing them a favor
- If it is somebody you don't know well, speak to their friends and have them make an attempt to persuade them to hand over the keys—usually they will listen



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# INTERVENTION TO PREVENT IMPAIRED DRIVING

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- If it's a good friend, or significant other, tell them that if they insist on driving, you are not going with them—suggest that you will call someone else for a ride, take a cab, or walk
- Locate their keys while they are preoccupied and take them away—most likely, they will think they've lost them and will be forced to find another mode of transportation
- If possible, avoid embarrassing the person or being confrontational, particularly when dealing with men—this makes them appear vulnerable to alcohol and its effects
- Be a designated driver



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# INTERVENTION TO PREVENT IMPAIRED DRIVING

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- How can you tell if someone is too drunk to drive?
- What to look out for
  - Loss of coordination
  - Use of loud or profane language
  - Frequent trips to the restroom
  - Slow reflexes and reaction time



# RESIST PEER PRESSURE

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- A peer is someone in your own age group
- Pressure is the feeling of being pushed toward making a certain choice—good or bad
- Peer pressure is the feeling that someone your own age is pushing you toward making a certain choice—good or bad
- Peer pressure can be hard to resist



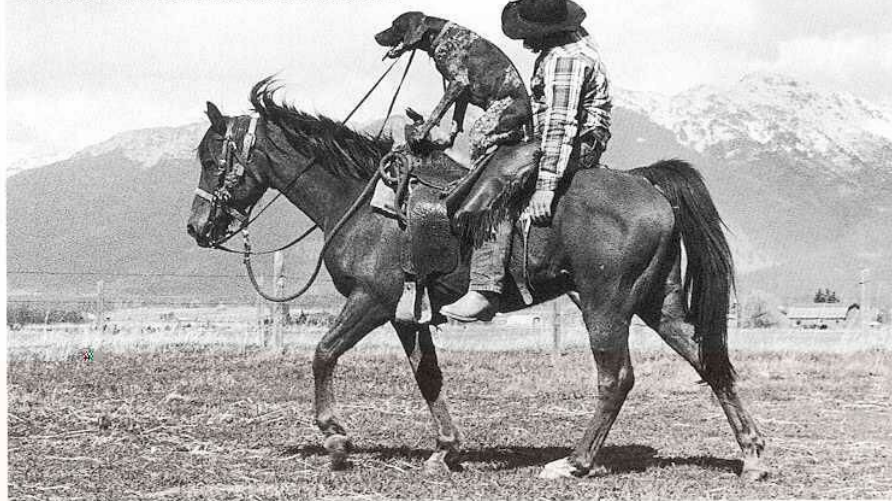
# RESIST PEER PRESSURE

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Here is a good way to say "no" and still be cool

- Say what the problem is (that's mean, or, that's illegal, etc.)
- Say what the consequences are
- Suggest something to do instead
- If your friends insist on the behavior, leave — but leave the door open for them to change their minds and join you

Friends Don't Let Friends Drive Drunk



# RESIST PEER PRESSURE

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## Make a plan

- Think ahead and try to anticipate possible problems
- Decide in advance what you intend to do
- Think of some good ways to handle the situation if it arises, or some good ways to avoid the situation altogether



# RESIST PEER PRESSURE

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Different strategies work for different people, but some commonly successful strategies are:

- Finding or inventing a reason to leave the scene
- Treating the suggestion as if it is not serious or making a joke of it
- Getting involved in a new activity with a new group of people
- Getting help from a trusted adult (for example, a coach, teacher, counselor, or family member)

